

Lesson Plan

WELCOME TO THE INSECT HOTEL!



Student information

- Target Group Description: 4th grade (ages 9–10)

Prior knowledge and learning experiences:

- Students have foundational knowledge of living organisms, ecosystems, and the importance of biodiversity, as covered in the Natural Sciences curriculum for earlier grades.
- Basic math skills in measurement (length), simple calculations of perimeter and area, and counting/classifying objects.
- Previous experience with group work, creative expression (drawing, painting), and storytelling or informative writing.
- Exposure to basic inquiry-based tasks (asking questions, observing, recording results) and hands-on exploration through science and arts activities.

Learning needs and characteristics:

- High engagement with nature, animals, and tangible, real-world projects.
- Need for visual, tactile, and interactive learning methods to maintain motivation and support different learning styles.
- Developing autonomy and collaboration skills, often benefiting from structured roles and clear instructions during group tasks.
- Enthusiastic about sharing work with peers and the school community, especially through creative outputs and exhibitions.

STEAM Scenario + Final learning products

1. In a context of increasing environmental concern and the need to protect biodiversity, students are invited to explore the world of insects and their essential role in ecosystems. The construction and exploration of an insect hotel serves as a practical and interdisciplinary response, bringing children closer to nature and promoting sustainable thinking.

Engagement / Challenge Launch

- Presentation of a pre-built insect hotel structure.
- Guiding question: "Who will live in this hotel?"
- Viewing images/videos about insect hotels and beneficial insects.

Task Distribution by Groups / Classes

- Free observation of the hotel.
- Collection of natural materials for decoration (branches, pinecones, dry leaves).
- Artistic expression activities: insect drawings, collages.
- Naming and painting parts of the hotel (with symbols or colors).
- Counting and classifying materials used in the hotel.
- Measuring hotel parts with rulers and strings (play-based activity).

- "Where does the insect live?" game with illustrated cards.
- Calculating the perimeters and areas of parts of the hotel (e.g., walls, entrances).
- Researching different beneficial insects (ladybugs, solitary bees, beetles, etc.).
- Creating short informative texts or fact sheets.

Scientific Observation

Microscope observation of:

- Insects (alive if possible, or dead ones found outdoors).
- Plant parts used in the hotel.
- Recording observations through drawings and simple notes by the children.

Final Exhibition Construction

- Decorating the hotel with collected and painted materials.
- Creating informational panels:
 - "Who lives here?"
 - "Did you know...?"
 - "What did we measure?"
- Presentation open to the educational community (parents, peers, other classes).

2 -Final Products:

- A functional and decorated insect hotel.
- Informational panels created by the students.
- An interactive final exhibition.
- A collective portfolio with photographs and student-created texts.

INTENDED LEARNING OUTCOME

Cognitive

Analyze (critical thinking) + different insect habitats + in the context of building an insect hotel (Natural Sciences, Math, Visual Arts).

Measure and calculate (logical thinking) + perimeters and areas + in the context of building the hotel (Mathematics).

Research and synthesize (creative thinking) + characteristics of beneficial insects + to create informative sheets (Science, Language).

Affective

Develop empathy and respect for biodiversity and small living beings. Value teamwork and the contribution of each member to a common project.

Behavioral

Act sustainably (proactive behavior) + by collecting natural materials + to build an ecological hotel (Environmental Education, Science).

Connection with SDGs (Sustainable Development Goals) SDG 15 – Life on land.

SDG 4 – Quality education.

SDG 13 – Climate action (eco-friendly behaviors).

PEDAGOGICAL APPROACH AND LEARNING MODES

- Project-based learning, inquiry-based learning, collaborative learning.
- Face-to-face learning, occasional use of tablets/phones for research, writing, and photography (mobile learning).

LEARNING ACTIVITIES

Indicate the learning activities students will engage in with clear instruction of the learning process



Challenge Launch:

Free observation of a pre-built insect hotel;
Viewing videos and images of insect hotels and beneficial insects;
Group discussion: "Who lives here and why?";

Exploration and Creation:

- Collecting natural materials (outdoors);
- Classifying and counting materials;

Artistic activities:

- insect drawings, collages, painting parts of the hotel.
- Measuring with rulers and strings (guided play);
- "Where does the insect live?" game with illustrated cards;

Research and Content Creation:

- Researching beneficial insects (ladybugs, solitary bees, beetles, etc.);
- Writing short informative texts;
- Calculating perimeters and areas of hotel parts;

Scientific Observation:

- Microscope observation of insects and collected plant materials;
- Recording through drawings and short written notes;

Final Exhibition:

- Final assembly and decoration of the hotel;
- Creating informational panels: "Who lives here?", "Did you know...?", "What did we measure?";
- Presentation to parents, peers, and other classes.

TEACHING RESOURCES AND MATERIALS

Indicate the needed resources (e.g., learning materials, digital and non-digital devices, software and apps, books, articles, human resources) and required learning environment (the physical space arrangement for the STEAM activities)

Materials: rulers, strings, colored pencils, drawing paper, microscope, tablets/phones (for photos and research), glue, brushes, paint, cards.

Human resources: teachers, school staff, parents (for materials and visit).

Spaces: classroom, outdoor space (garden or courtyard), exhibition corner.

ASSESSMENT

Indicate the assessment methods to understand learning process and identify learning outcomes

Assessment

- Direct observation during activities.
- Student notebooks/ Portfolios;
- Evaluation of student productions (texts, drawings, measurements); Self-assessment and peer assessment;
- Qualitative feedback during the final presentation...



Lesson 1	Project introduction and hotel observation <ul style="list-style-type: none"> • Science, Arts, IT
Lesson 2	Video and discussion: "Who lives here?" <ul style="list-style-type: none"> • Language, Science, IT
Lesson 3	Collecting and classifying materials <ul style="list-style-type: none"> • Science, Math
Lesson 4	Painting and decorating the hotel <ul style="list-style-type: none"> • Visual Arts
Lesson 5	Measuring and calculating areas/perimeters <ul style="list-style-type: none"> • Mathematics, IT
Lesson 6	Habitat card game <ul style="list-style-type: none"> • Science
Lesson 7	Research and writing informative texts <ul style="list-style-type: none"> • Language, Science; IT
Lesson 8	Microscope observation and recording <ul style="list-style-type: none"> • Science
Lesson 9	Creating exhibition panels <ul style="list-style-type: none"> • Language, Arts, IT
Lesson 10	Final exhibition and sharing <ul style="list-style-type: none"> • All



Support Materials – STEAM Plan “Welcome to the Insect Hotel!”

Initial Motivation Worksheet

Student Worksheet – “Who Lives Here?”

Name:

Date:

1. What insects do you know?
2. Where do insects live?
3. Why are insects important for nature?
4. Draw your favorite insect.



Observation Worksheet – Insect Hotel Exploration

Student Worksheet – “Exploring the Insect Hotel”

Objective:

Observe and discover the different spaces inside the insect hotel.

Observation Questions:

1. What materials can you see in the hotel?

Wood

Pinecones

Leaves

Bamboo

Stones

2. Which insects might live there?

3. Which part of the hotel do you find most interesting?

Drawing Activity:

Draw the insect hotel and label its parts.



Mathematics Worksheet – Measuring the Hotel

Student Worksheet – “Math and Measurement”

1. Measure the height of the insect

hotel. Height: _____

2. Measure the width of the insect

hotel. Width: _____

3. Calculate the perimeter.

Calculation:

4. Calculate the area.

Calculation:

5. Count the materials used in the hotel.

Material	Quantity



Research Worksheet – Beneficial Insects

Student Worksheet – “Let’s Investigate!”

Choose one beneficial insect and research it.

Name of the insect:

1. Where does it live?

2. What does it eat?

3. Why is it important?

4. Draw the insect.



Artistic Creation Worksheet

Student Worksheet – “Decorating the Hotel”

Our group decoration plan:

Colours we will use:

Natural materials we collected:

Environmental message:

Sketch your decoration idea below.



Scientific Observation Worksheet

Student Worksheet – “Microscope Observation”

Objective:

Observe insects or natural materials using a microscope.

What did you observe?

Describe the colours, shapes, and textures:

What surprised you the most?

Draw what you observed.



Habitat Card Game

Activity – “Where Does the Insect Live?”

Instructions:

1. Match each insect with its habitat.
2. Explain your choices to your classmates.

Insects:

- Ladybug
- Bee
- Beetle
- Butterfly

Habitats:

- Flowers
- Trees
- Soil
- Garden



Informational Panel Worksheet

Student Worksheet – “Creating an Information Panel”

Panel title:

Interesting facts:

What did we learn?

Decorate your panel with drawings and symbols.



Final Reflection Worksheet

Student Worksheet – “What Did I Learn?”

1. What did you enjoy most about this project?

2. What new things did you learn about insects?

3. How can we protect biodiversity?

4. My group worked:

Very well

Well

We need to improve

5. Draw your favorite moment from the project.



Teacher Assessment Checklist

Criteria	Yes	No	Observations
Participates actively			
Cooperates with the group			
Uses measuring tools correctly			
Understands biodiversity concepts			
Produces creative work			
Records observations carefully			
Communicates ideas clearly			

Assessment Rubric

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Criteria	Excellent	Good	Satisfactory	Needs Improvement
Participation	Always participates	Frequently participates	Sometimes participates	Rarely participates
Teamwork	Excellent collaboration	Good collaboration	Some collaboration	Poor collaboration
Scientific understanding	Strong understanding	Good understanding	Basic understanding	Difficulties understanding
Creativity	Very creative	Creative	Some creativity	Limited creativity
Communication	Clear and confident	Clear	Some difficulties	Difficulties communicating

Digital Activity Suggestions

- Create digital posters in Canva
- Make slideshows about insects
- Record short awareness videos
- Use tablets to photograph insects
- Create games on Wordwall

